Exhibit 3

McCRONE ASSOCIATES, INC.
850 Pasquinelli Drive • Westmont, Illinois 60559-5539
630-887-7100 • Fax: 630-887-7417

30 June 2017

Ms. Sarah Grusin
Loevy & Loevy
Attorney
311 N. Aberdeen St., 3rd Floor
Chicago, IL 60607

Subject: Sabein Burgess v. Baltimore Police Department, et al. – Documents Review

Re: McCrone Associates Project MA61581

Dear Ms. Grusin:

ASSIGNMENT

In November 2016, I was contacted by Sarah Grusin of Loevy & Loevy and asked to provide opinions concentrating on the issue of gunshot residue (GSR) transfer from one object to another by incidental contact. In this case, the issue is transfer of GSR from the victim of a shooting to Mr. Burgess.

My comments and opinions presented in this report are based on my review of the documents submitted to me by Loevy & Loevy, pertinent technical publications, and one instance of personal experience examining GSR from hair. A list of the documents received is presented in Appendix A. My employer, McCrone Associates, Inc.is being paid $365 an hour for my work in this case.

CREDENTIALS

I have been employed as a Senior Research Scientist at McCrone Associates, Inc. since 1992 and my current curriculum vitae information is presented in Appendix B. I have been conducting gunshot residue analysis testing at McCrone Associates, Inc. since 1995. During the last four years I have worked on 89 cases. A list of cases in which I have testified as an expert is presented in Appendix C. I have never been excluded as an expert witness.

In June 2005, I was selected as a charter member of the Scientific Working Group for Gunshot Residue (SWGGSR) and in October 2014 I was selected to serve on the Organization of Scientific Area Committees-GSR subcommittee (OSAC-GSR).

Ms. Sarah Grusin
MA61581

Since 2011 I have taught the short course "GSR Identification" for the Hooke College of Applied Sciences. The course concentrates on GSR analysis by the scanning electron microscopy (SEM) with energy dispersive x-ray spectrometry (EDS) method.

BACKGROUND INFORMATION ON GUNSHOT RESIDUE FORMATION AND DEPOSITION

When the gun is fired, a firing pin is released and strikes the primer cap on the back side of the cartridge case. Chemical compounds, composed of lead (Pb), barium (Ba), and antimony (Sb) materials ignite and direct a flame through a hole in the primer cap to ignite the propellant/gunpowder within the cartridge. When the propellant/gunpowder burns it produces large quantities of gas and the internal pressure builds up to the point where the bullet is ejected from the cartridge case down the barrel of the gun. This entire action takes place within fractions of a second and results in a smoke plume seen coming from various openings in the gun, such as the barrel, trigger finger area, the cartridge ejection port (if from a semi-automatic pistol) or the cartridge cylinder (if from a revolver). In general, the smoke plume can travel up to 3 to 4 feet from the gun, especially from the barrel with the bullet ejection. A revolver will produce more GSR particles than a semi-automatic pistol due to the higher amount of openings from the revolver cylinder compared to the pistol cartridge ejection port. Particles that have re-condensed from the vapor of the smoke plume can then deposit on objects within that area. The chemical compounds from the primer cap re-condense from the vapor phase into solid particles containing all three elements Pb/Ba/Sb, or any combination of two of the elements, or even one of the elements. A typical size range of particles is 1 to 10 µm, which is about 1/8 the diameter of a human hair. The ASTM[1] and SWGGSR[2] guidelines consider particles containing all three elements (a.k.a. tri-component, 3-component) as *characteristic* of gunshot residue. Particles *consistent* with gunshot residue contain one or two (a.k.a. single-component or 2-component) of the three elements but these types of particles may also originate from other environmental sources unrelated to a gunshot.

ANALYSIS OF GUNSHOT RESIDUE

The accepted and preferred method to conduct an analysis for the presence or absence of primer GSR is by scanning electron microscopy (SEM) with energy dispersive x-ray spectrometry (EDS). Original developments of this method began in the mid-1970s and it was accepted court in 1978. In 1994, the American Society of Testing and Materials (now known as ASTM international) issued ASTM designation E1588 – 94 "Standard Guide for Gunshot Residue Analysis by Scanning Electron Microscopy/Energy Dispersive X-Ray Spectrometry" which has been periodically revised over the years and is currently designated as E 1588 – 17 "Standard Practice

Ms. Sarah Grusin
MA61581

for Gunshot Residue Analysis by Scanning Electron Microscopy/Energy Dispersive X-Ray Spectrometry" which was issued in March of 2017.

Gunshot residue collection from various objects is usually accomplished by the use of adhesive tape lifters (a.k.a. swabs or stubs). The tape lifters and appropriate reference materials are mounted and loaded into the sample chamber of a Scanning Electron Microscope (SEM) equipped with an energy dispersive X-Ray spectrometer. After using the appropriate references to set up analysis parameters and check performance, the tape lifters are analyzed automatically (unattended). The SEM provides imaging of multiple fields of view from the tape lifters. Particles that are above a pre-determined brightness/contrast threshold are then analyzed by the EDS system to produce the elemental composition of the particles. Based on the elemental composition, the particles are categorized by software classification scheme. After all the tape lifters have been analyzed, the SEM GSR analyst reviews the data and must relocate particles identified as characteristic GSR for re-analysis to confirm and document the results.

The automated SEM/EDS analysis method was utilized by Mr. Daniel Van Gelder (a GSR analyst for the Baltimore Police Department) on the adhesive tape lifters obtained from the hands of Mr. Burgess in 1994. Mr. Van Gelder reported detecting GSR particles on the samples collected from Mr. Burgess's hands.

As shown in the SWGGSR guideline (page 26) there are three common circumstances by which GSR can be deposited onto hands, clothing or other objects:

1. discharging a firearm
2. being in the proximity to the discharge of a firearm
3. coming into contact with a surface that has GSR on it

Additional statements from the SWGGSR guideline (page 27) include:

1. GSR from contaminated personnel can potentially be transferred to people and surfaces with which they come into contact.
2. It is not usually possible to distinguish GSR particles deposited due to firing from residue deposited by being close to a discharge or through contact with a surface that has GSR on it.

The presence and quantity of GSR particles detected cannot be used as a determining factor for identifying a shooter. This result only shows that the person was, in some way, associated with the environment of a gunshot. Due to many uncontrolled variables regarding GSR particle deposition and particle loss over time, one cannot scientifically (i.e. statistically) determine the relative likelihood of a person firing a gun, being in close proximity to a gun when fired or coming into contact with a surface that has GSR on it.

Ms. Sarah Grusin
MA61581

In Mr. Aaron's article published in 1991 (see reference 6) he states: "The real value of the GSR test is that it can associate an individual with a firearm. It is important, however, to note that this does not identify that person as the shooter."

GSR TRANSFER

GSR particles do not adhere tightly to non-adhesive materials and therefore can easily be transferred from one object to another during direct contact. A familiar analogy would be the transfer of flour particles when preparing baking ingredients. Flour on the hands can easily transfer to clothing or any other objects that are touched. Conversely, flour particles can transfer from clothing to hands or other objects as well. Like flour and other "dusty" materials, GSR particles will stay on objects until they are physically removed by rubbing or washing. As long as GSR particles are on an object some amount could be transferred to another object when coming into direct contact.

ANALYSTS, INCLUDING VAN GELDER, WOULD HAVE KNOWN ABOUT THE POSSIBILITY OF TRANSFER IN 1994

It has been well known since the early 20th century that when two objects come into direct contact, material is transferred from one object to the other. This is known as the Locard Exchange Principle, which is based on trace evidence analysis conducted by Detective Edmond Locard in France. Detective Locard was able to demonstrate many times how trace amounts of materials detected on a suspect were linked to transfer of the materials from crime scenes. In a 1930 article by Locard published in the American Journal of Police Science, "The analysis of Dust Traces" he wrote:

"Among recent researches, the analysis of dust has appeared as one of the newest and most surprising. Yet, upon reflection, one is astonished that it has been necessary to wait until this late day for so simple an idea to be applied as the collecting, in the dust of garments, of the evidence of the objects rubbed against, and the contacts which a suspected person may have undergone. For the microscopic debris that covers our clothes and bodies are the mute witnesses, sure and faithful, of all our movements and of all our encounters."

As mentioned in Bisbing's article (see reference 7), additional references to the exchange principle also appear in Reginald Morrish's, The Police and Crime-Detection Today, London: Oxford University Press, 1940 and reiterated by L.C. Nickolls, in 1956. This would have been a well-known and accepted scientific principle among reasonable GSR analysts in 1994 and 1995.

Ms. Sarah Grusin
MA61581

Based on my professional experience and training, I am aware that, even before 1994 and 1995, many police agencies and crime laboratories had protocols in place to minimize and prevent GSR contamination from transferring from various objects to a suspect while in custody. The collection kits for GSR tape lifter sampling include gloves to be worn by the collecting person. After collection the tape lifter is immediately put back into the plastic vial to prevent contamination from the surrounding environment prior to analysis. A suspect's hands can be bagged prior to being transported to the police station in a squad car. Interrogation rooms are routinely cleaned and checked for GSR contamination.

In fact, Mr. Van Gelder made clear in his deposition in this case that he was well aware of the possibility of transfer in 1994 and 1995. (Van Gelder Deposition, November 12, 2016).

> Q. Okay. And you said it's well understood by GSR analysts. Did you have that understanding prior to Mr. Burgess' -- prior to 1994 when you conducted the GSR analysis in Mr. Burgess' case?
> A. Well, it says the subject of the GSR test may have acquired particles on their hands from incidental contact with persons or objects in their environment prior to the GSR test, especially at the crime scene. I agree with that.
> Q. And did you agree with that or would you agree with that based on your knowledge as of October and November of 1994 when you conducted the GSR testing in Mr. Burgess' case?
> A. Yes.
> Q. Would you agree with that statement as of 1995 when you testified in Mr. Burgess' case?
> A. Yes.

Mr. Van Gelder made that clear in other testimony as well. For instance, in another case, Mr. Van Gelder acknowledged that GSR particles can be transferred from one surface to another (Van Gelder Testimony, *Maryland v. Tyrone Jones*, Burgess 09141):

> Q. Now, if you are holding something in your hand after the particles get on your hand, what if anything does that do to the particles? If I pick up this purse, what is that going to do to the particles if they were on my hand?
> A. Some of them would come off onto the purse.

He also acknowledged that GSR can be transferred between objects in another case, agreeing that "bumping into someone can wipe some of the particles away." (Van Gelder Testimony, *Maryland v. Pulley*, Burgess 9104). He further explained:

> if a person fires a gun and the muzzle is near, for instance, an edge of a table, gunshot primer residue would be deposited on that object near the muzzle. A person who then immediately touches the edge of the table could get gunshot primer residue on their hands . . . that also comes off. And I can't put an exact time, but it's – I'd say something like the same time as on the test, two to three hours.
> (Van Gelder Testimony, *Maryland v. Pulley*, Burgess 9105).

Similarly, Van Gelder also acknowledged at his deposition (Van Gelder Deposition, November 12, 2016). that in 1995 he knew that gunpowder and primer particles can travel some distance from a gun when fired:

> " ...My understanding in 1995 was that gunpowder goes out of the gun and a plume around the muzzle and that drifts around in the air...."
>
> Q. In 1995 your understanding was that those primer particles would be blasted out of the gun along with the gunpowder and the bullet, correct?
> A. Some of them would, yes.

He has also acknowledged that GSR can be present in a cloud of smoke that is created after firing a gun. (Van Gelder Testimony, *Maryland v. Pulley*, Burgess 9099):

> "Well, most of the gunshot primer residue is deposited immediately after the shot. A cloud emerges from the muzzle, and after that shot rises, a person could get it on their hands by running through that cloud immediately after the shot. The cloud goes about two and a half feet beyond the muzzle, but it spreads out to the side also. So it may be two feet to the side, two and a half feet in front of the muzzle."

THE GSR TEST RESULTS FROM MR. BURGESS'S HANDS WERE MOST LIKELY THE RESULT OF TRANSFER

Based on the specific details of this case, GSR transfer was certainly possible and therfore must be considered as an explanation for the GSR analysis results. Mr. Burgess entered the victim's home and allegedly found her lying on the basement floor with a gunshot wound to her head and chest. He stated that he knelt down and cradled her head. The medical examiner determined that the shots were from close range. Therefore, it would be expected that GSR would be deposited on the victim's body.

The victim was allegedly shot at close range in a small area of the basement. When police officer Weese came to the scene he described smelling gun smoke and seeing a

Ms. Sarah Grusin
MA61581

lingering cloud of smoke (Deposition of Dale A. Weese, Jr., November 10, 2016, page 74):

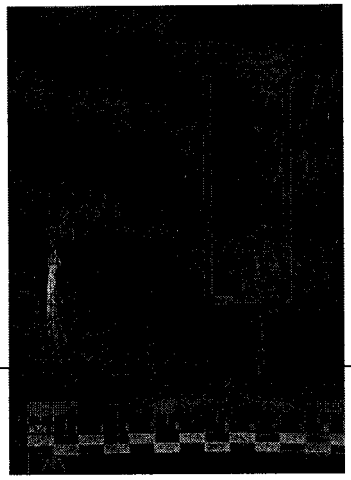
> "...Going into the house. Basement door was partially open. Going to the top of the steps of the basement. Could smell gun smoke or discharged firearm. Seen a lingering cloud of smoke."

From my own experience firing guns, I know that the smell of gun smoke is rather unique; at least I have never smelled anything like it from other sources. The fact that officer Weese could smell gun smoke and see a lingering cloud of smoke indicates that GSR particles were still airborne in the basement and continuing to settle onto various objects including, in my opinion, Mr. Burgess and the victim. This also raises the possibility that GSR particles could have deposited on Mr. Burgess before he even got to the victim. Furthermore, it suggests that GSR particles may also have been deposited on the police officers who entered the basement while the cloud of smoke was still lingering.

Based on the description of the scene where the victim was found, close proximity shot(s), the smell of gun smoke in the air, I would expect that GSR particles had been deposited on the victim, especially near the gunshot wounds to the head and chest.

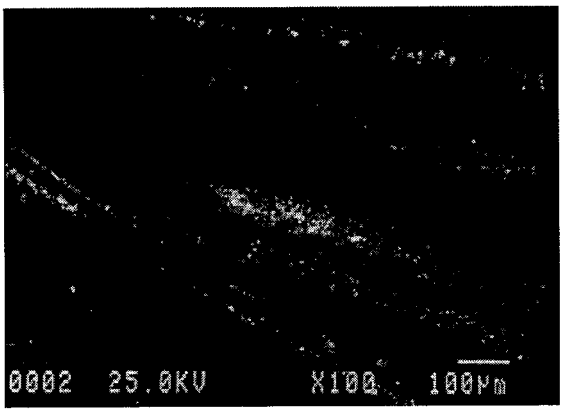
When Mr. Burgess knelt down to cradle the victim with his hands and arms, GSR particles could easily have been transferred to him by that direct contact with the victim's hair, face, neck, upper body clothing. GSR particles could also have been transferred to him by touching his hands to the floor near the victim's body.

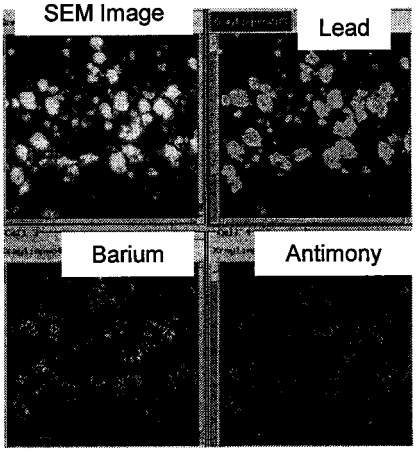
Many years ago I had an opportunity to conduct a gunshot residue analysis from a lock of hair. The case involved a domestic dispute in which a woman claimed that the man had shot a gun in close proximity to her head. While interviewing the woman the police officer noticed a dark smudge in her hair. A lock of the hair containing the smudge was sent to McCrone Associates, Inc. to determine if the smudge was GSR particles or simply dirt. A photograph of the lock of hair is shown with the smudge contained within the blue rectangle:



Ms. Sarah Grusin
MA61581

Several individual strands of hair from the smudge and clean regions were examined with a polarized light microscope, revealing that the smudge region was heavily coated with dark particulates. One strand of the hair from the smudge region was gently placed onto an adhesive tape lifter and pulled off three or four times. Examining the adhesive tape lifter with the SEM/EDS system, it was discovered that there were hundreds of primer GSR particles as shown by x-ray elemental mapping:





X-Ray maps on the right are from small region near center of the SEM overview image on the left. This data confirmed the woman's allegation, but it also demonstrates how much GSR can be deposited on hair from a close proximity gun shot. Those GSR particles are certainly available for incidental contact transfer.

VAN GELDER'S OPINIONS HAD NO SCIENTIFIC BASIS

My main objection and disagreement is with Mr. Van Gelder's opinions regarding transfer of GSR particles from one object to another via incidental contact.
Based on the GSR results of detecting 15 GSR particles and three GSR particles on the left-hand, Mr. Van Gelder concluded that:

> "Gunshot primer residues were found on the hand(s) of the subject. There is a possibility that these residues were transferred from the surface of a firearm or from an object which lay immediately adjacent to a firearm during its discharge. Most probably, however, the subject's hands were immediately adjacent to a

> discharging firearm or were themselves used to fire the firearm within a few hours of (time) 11:05 PM (date) October 9, 1994." (Burgess 000129)

Mr. Van Gelder repeated that conclusion at Mr. Burgess's criminal trial:

> Q. "... Can you state to the ladies and gentlemen of this jury that your test on either the left hand or the right hand of this defendant shows that he fired a firearm?"
> A. "It shows that he fired a firearm or that his hand was near the firearm when it fired. That's my conclusion."

(Van Gelder deposition transcript 11-12-2016, page 227).

The statement completely ignores the possibility that GSR could've transferred from the victim to Mr. Burgess when they came into direct contact with one another, and there is no scientific basis for Van Gelder's conclusion. Furthermore, in testimony Mr. Van Gelder minimizes the possibility of GSR transfer (Van Gelder deposition transcript 11-12-2016, pages 231-232):

> Q. "Do you recall testifying at Mr. Burgess' trial that there was a, quote, very small possibility of transfer?
> A. At what page is that on, please?
> Q. If you look at page 220, starting at 20 line 16, through 221, line 2.
> A. The first page you mentioned was?
> Q. 220, sir, starting at line 16, through 221, line 2.
> A. Okay. A very small possibility, yes.
> Q. And is that your testimony as you sit here today, that there's a very small possibility--
> A. That was my testimony then. I stand by it."

CONCLUSION

GSR particles can be easily transferred from one object to another during direct contact.

Therefore, Mr. Van Gelder's statements that GSR particle transfer is very unlikely is, in my opinion, completely wrong and entirely without scientific basis. By minimizing the possibility of GSR particle transfer, Mr. Van Gelder's conclusions that a person fired the gun or was in close proximity to the gun when fired entirely misstates the science, as Van Gelder, or any microscopy analyst, would have known at that time.

REFERENCES

Ms. Sarah Grusin
MA61581

1. ASTM Designation: E1588 – 17 **Standard Practice for Gunshot Residue Analysis by Scanning Electron Microscopy/Energy Dispersive X-Ray Spectrometry**
2. SWGGSR, **Guide for Primer Gunshot Residue Analysis by Scanning Electron Microscopy/Energy Dispersive X-Ray Spectroscopy**, available from http://www.swggsr.org.
3. Zeichner , A. and Levin , N., **Collection Efficiency of Gunshot Residue (GSR) Particles from Hair and Hands Using Double-Side Adhesive Tape,** *Journal of Forensic Sciences*, JFSCA, Vol . 38, No. 3. May 1993. pp. 571-584.
4. G. M. Wolten,1 Ph.D.; R. S. Nesbitt,' B.A.; and A. R. Galloway,' B.A., **Particle Analysis for the Detection of Gunshot Residue. III: The Case Record**, J Forensic Sci, Oct. 1979, Vol. 24, No. 4
5. Ravreby, M., " **Analysis of Long-Range Bullet Entrance Holes by Atomic Absorption Spectrophotometry and Scanning Electron Microscopy**," *Journal of Forensic Sciences,* JFSCA, Vol. 27, No. 1, Jan. 1982, pp. 92-112
6. Aaron, Roger W., **Gunshot Primer Residue-The Invisible Clue**, FBI Law Enforcement Bulletin, June 1991, pp. 19-22.
7. Bisbing, Richard E., Fractured Patterns: Microscopical Investigation of Real Physical Evidence, https://www.mccrone.com/mm/fractured-patterns-microscopical-investigation-of-real-physical-evidence/, 2004

Thank you for consulting McCrone Associates. If you have any questions about this report, please feel free to contact me by telephone or by e-mail at wniemeyer@mccrone.com.

McCrone Associates, Inc. conducts analysis in a laboratory accredited to ISO/IEC 17025:2005 by the American Association for Laboratory Accreditation (A2LA) and in compliance with applicable current Good Manufacturing Practices per sections 210, 211, and 820 of the Federal Food, Drug, and Cosmetic Act. Please consult A2LA Certificate #3631.01 for a list of accredited technologies at www.a2la.org.

Sincerely,

Wayne D. Niemeyer

Wayne D. Niemeyer

Senior Research Scientist

Ms. Sarah Grusin
MA61581

WDN:
Enclosure
Ref: MA61581

APPENDIX A

Sabein Burgess v. Baltimore Police Department, et al.
Documents Received from Loevy & Loevy for Review

Ref: MA61581
(1 page)

MA61581 Appendix A
Documents Received from Loevy & Loevy

1. Complaint.pdf
2. Burgess 000106
3. Burgess 000109-110
4. Burgess 000112-114
5. Burgess 000129-130
6. Burgess 000243-258
7. Burgess 000973-000974
8. Burgess 001123- 001204
9. Burgess 001570-001572
10. Burgess 001573-001582
11. Burgess 003304-3338
12. Burgess 009092-9130
13. Victor Meinhardt 01.10.2017 deposition transcript and exhibits
14. Dale Weese 11.10.2016 deposition transcript
15. BPD 2528
16. Daniel Van Gelder 11.12.2016 deposition transcript and exhibits
17. James Wagster 01.10.2017 deposition transcript
18. Burgess 003834
19. Sabein Burgess 12.01.2016 deposition transcript and exhibits
20. Burgess 009131-009161

APPENDIX B

Curriculum Vitae - Wayne D. Niemeyer

Ref: MA61581
(7 pages)

CURRICULUM VITAE

WAYNE D. NIEMEYER

McCRONE EXPERIENCE – Since 1992, Senior Research Scientist

Responsible for identification of inorganic and organic particles and thin films. Consultant in ultra-microanalysis and microscopy for clients in the pharmaceutical, electronics, paint, automotive, packaging, and metals industries. Provides expert witness testimony in civil and criminal cases. Provides gunshot residue (GSR) analysis using the SEM/EDS method.

Co-instructor for two courses offered through the Hooke College of Applied Sciences: INS-510 Scanning Electron Microscopy (4½ days) and MEI-660 Gunshot Residue Identification (3 days). Since 2007, has served on the Scientific Working Group for Gunshot Residue (SWGGSR). Since October 2014, has served on the NIST OSAC GSR sub-committee.

PROFESSIONAL EXPERIENCE

1969-1992 – Twenty-three years of experience with National Can Corporation (combined with American Can Company in 1987 to form American National Can Company) Research and Development Laboratory.

Responsibilities included surface analysis of aluminum, steel, glass, and plastic packaging materials utilizing scanning electron microscopy, secondary ion mass spectrometry, energy and wavelength dispersive X-ray, infrared spectroscopy, and optical microscopy (polarized light). Development responsibilities included metal surface treatments, lubrication processes for drawn and ironed can making, electrochemical methods to determine shelf life of food and beverage containers, and industrial waste water treatment processes. Investigated production plant process chemistry problems as needed.

TECHNICAL EXPERTISE

Electrochemistry (corrosion), optical microscopy, scanning electron microscopy, electron microprobe analysis, infrared spectroscopy, lubrication and wear, waste water treatment, secondary ion mass spectrometry, conversion coatings on aluminum and steel surfaces, gunshot residue (GSR) analysis, paint adhesion failure analysis, metallography.

Wayne D. Niemeyer
Curriculum Vitae

EDUCATION

B.A. Chemistry (cum laude), Illinois Institute of Technology, 1977
B.Sc. Mathematics, DePaul University, 1969

FORMAL TRAINING

- Corrosion of Engineering Materials (1969)
- Strategy of Experimentation (1977)
- Waste Water Treatment Using Reverse Osmosis/Ultrafiltration (1978)
- Applied Polarized Light Microscopy (1992)
- Scanning Electron Microscopy (1992)
- Polymer, Fiber & Film Microscopy (1993)
- Quantitative X-ray Microanalysis of Bulk Specimens & Particles (1993)
- Forensic Microscopy (1994)
- Electron Microscopy in Failure Analysis (1996)

PROFESSIONAL PRESENTATIONS AND PUBLICATIONS

W.D. Niemeyer and J. Gavrilovic, "Use of Light Microscopy and Ion Microprobe for Identification of Surface Contaminants on Aluminum and Tinplate Cans," Inter/Micro 1982, Chicago, Illinois, July 1982.

W. D. Niemeyer and J. Gavrilovic, "What's Wrong with the Surface?", Research and Development, June 1985, pp.114-117.

W.D. Niemeyer, "Solving Surface Related Problems in the Packaging Industry," Colloque Recherche et Developpement Pechiney '90, Paris, France, April 1990.

W.D. Niemeyer, "It's Only a Can," Inter/Micro 1993, Chicago, Illinois, July 1993.

W.D. Niemeyer, "Small Defect Analyses in Paints," Fine Particle Society Annual Meeting, Rosemont, Illinois, August 1993.

W.D. Niemeyer, "Practical Aspects of Light Microscopy," ASM Workshop, Schaumburg, Illinois, November 1993.

W.D. Niemeyer, "Microanalysis Surprises," Microscopy Today, March 1994, pp. 8-9.

Wayne D. Niemeyer
Curriculum Vitae

PROFESSIONAL PRESENTATIONS AND PUBLICATIONS – continued

W.D. Niemeyer, "Merging Microanalysis Techniques," Inter/Micro 1994, Chicago, Illinois, July 1994.

W.D. Niemeyer, "Surface Analysis – A Review of Techniques," National Metal Decorators Association, 60th Annual Convention, New Orleans, Louisiana, October 1994.

W.D. Niemeyer, "Microanalysis of Small Defects in Paint Films," Federation of Societies for Coatings Technology, Paint Industries Show, New Orleans, Louisiana, October 1994.

W.D. Niemeyer, "Getting to the Root Cause through Microanalysis," ASQC 19th Annual Quality Awareness Day, Argonne National Laboratory, Argonne, Illinois, April 1995.

W.D. Niemeyer, "Microanalysis for Problem Solving," 51st STLE Annual Meeting, Cincinnati, Ohio, May 1996.

J.G. Barabe and W.D. Niemeyer, "Light and Electron Microscopy Approaches to Writing Sequence Problems: Part 2," Inter/Micro 1996, Chicago, Illinois, June 1996.

F. McDonough, W. Niemeyer, M. Shuster, "Tracking Down an Elusive Cratering Problem: A Case Study with a Surprising Conclusion," International Can Manufacturing Technology '96, Rosemont, Illinois, September 1996.

J.G. Barabe, W.D. Niemeyer, V. Willard, "Light and Electron Microscopy Approaches to Writing Sequence Problems," Journal of Forensic Document Examiners, Fall 1996, pp. 57-101.

W.D. Niemeyer, "Analysis of Aluminum Surfaces –Microanalysis Techniques," 52nd STLE Annual Meeting, Kansas City, Missouri, May 1997.

W.D. Niemeyer, "Low Voltage Scanning Electron Microscopy," Inter/Micro 1997, Chicago, Illinois, July 1997.

J.G. Barabe, W.D. Niemeyer, V. Willard, Letter to the Editor, re: "Determining the Relative Chronology of Intersecting Ball Point Ink Lines and Laser Printed Document Marks – Linton Gowdown Revisited," Journal of Forensic Document Examiners, Vol. 3, No. 3, July/September 1997, pp. 216-217.

Wayne D. Niemeyer
Curriculum Vitae

PROFESSIONAL PRESENTATIONS AND PUBLICATIONS – continued

W.D. Niemeyer, "Searching for Microscopic Clues –Scanning Electron Microscopy/Energy Dispersive Spectrometry/Wavelength Dispersive X-ray Spectrometry as a Forensic Tool," Scanning, Vol. 20, No. 3, 1998, p. 175.

W.D. Niemeyer, "Searching for Microscopic Clues – SEM/EDS/WDS as a Forensic Tool," Scanning '98, Baltimore, Maryland, May 1998.

W.D. Niemeyer, "Surface Imaging – Reflected Light Nomarski Interference Contrast (NIC) vs. SEM," Inter/Micro 1998, Chicago, Illinois, August 1998.

W.D. Niemeyer, "Navigating through the Complex World of Scanning Electron Microscopy," Inter/Micro 1999, Chicago, Illinois, June 1999.

W.D. Niemeyer, "Specialized Polymer Surface Imaging with Electron and Light Microscopy," ASM ImageTech '99, Arlington Heights, Illinois, August 1999.

W.D. Niemeyer, "Polarized Light Microscopy in Modern High-tech Laboratories: Merging Old and New Technologies," ACS National Meeting, San Francisco, California, March 26, 2000.

W.D. Niemeyer, "Preparation of an In-house GSR Standard, Scanning, Volume 22, Number 2, March-April 2000, p. 63.

W.D. Niemeyer, "Preparation of an In-house GSR Standard," Scanning 2000, San Antonio, Texas, May 2000.

E. Nelson, D. Frey, W. Niemeyer, "Murder or Suicide – In-depth Investigation Finds the Truth," Scanning, Volume 22, Number 2, March-April 2000, pp. 76-77.

E. Nelson, D. Frey, W. Niemeyer, "Murder or Suicide – In-depth Investigation Finds the Truth," Scanning 2000, San Antonio, Texas, May 2000.

W.D. Niemeyer, "Analysis of Defects in Paint Films," Inter/Micro 2000, Chicago, Illinois, June 2000.

W.D. Niemeyer, "Polarized Light Microscopy in Modern High-tech Laboratories: Merging Old and New Technologies," Inter/Micro 2000, Chicago, Illinois, June 2000.

Wayne D. Niemeyer
Curriculum Vitae

PROFESSIONAL PRESENTATIONS AND PUBLICATIONS – continued

W.D. Niemeyer, "Gunshot Residue from Strange Places," IAMA Newsletter, Volume 1, Issue 3, August 2000, pp. 8-9.

W.D. Niemeyer, "The Curse of the Light Microscope," Inter/Micro 2001, Chicago, Illinois, June 2001.

W.D. Niemeyer, "Investigations in a Microscopic World – An Introduction to Microanalysis Techniques," Great Lakes Region – National Association of Marine Surveyors, Hammond, Indiana, October 2001.

W.D. Niemeyer, "Preparation of an In-house GSR Standard," Oxford Instruments GSR Users Meeting, Concord, Massachusetts, June 2002.

W.D. Niemeyer, "Sample Preparation and Brightness/Contrast Thresholding Strategies," Oxford Instruments GSR Users Meeting, Concord, Massachusetts, June 2002.

W.D. Niemeyer, "Microanalysis for Solving Paint Adhesion Failure Problems," TPO's in Automotive Conference, Novi, Michigan, June 2002.

W.D. Niemeyer, "Automotive Paint Adhesion Failures on TPO Substrates – Problem Solving by Microanalytical Techniques," Inter/Micro 2002, Chicago, Illinois, June 2002.

W. Mikuska, W. Niemeyer, K. Smith, "Meteorites – Windows to the Universe," Inter/Micro 2002, Chicago, Illinois, June 2002.

W.D. Niemeyer, "Analytical Microscopy – Sleuthing for Answers to the Unknown," 41st Annual National Marine Conference East, National Association of Marine Surveyors, Chicago, Illinois, April 2003.

W. Mikuska, W. Niemeyer, K. Smith, "Further Studies of an Anomalous Meteorite – NWA 176," Inter/Micro 2003, Chicago, Illinois, July 2003.

W.D. Niemeyer, "Preparation of a QA/QC GSR Standard for SEM/EDS Analysis," Inter/Micro 2003, Chicago, Illinois, July 2003.

W.D. Niemeyer, "The Expanding Role of Scanning Electron Microscopy in Forensic Investigations," MMME/ASM SEM Workshop, Palatine, Illinois, November 2003.

Wayne D. Niemeyer
Curriculum Vitae

PROFESSIONAL PRESENTATIONS AND PUBLICATIONS – continued

W.D. Niemeyer, "Analytical Microscopy – The Identification of Invisible Clues from a Microscopic World," MMMS "Investigations in Microscopy" Meeting, Libertyville, Illinois, July 2004.

F. McDonough, W. Niemeyer, M. Shuster, "Microanalysis of Craters in Organic Coating of Aluminum Cans," Modern Microscopy Journal, www.modernmicroscopy.com, Article 66, February 2006.

W.D. Niemeyer, "Practical Use of Analytical Microscopy for Defect Analysis in Plastics and Polymers," Society of Plastics Engineers, Chicago Chapter Meeting, Elk Grove Village, Illinois, March 2006.

W.D. Niemeyer, "Practical Applications of Scanning Electron Microscopy for Forensic Analysis," Microscopy and Microanalysis 2006 Conference, Chicago, Illinois, July 2006.

W.D. Niemeyer, "Practical Applications of Scanning Electron Microscopy for Forensic Analysis," Proceedings Microscopy and Microanalysis 2006, Volume 12, Supplement 2, Cambridge University Press, © 2006 Microscopy Society of America, pp. 18-19.

W.D. Niemeyer, "Scanning Electron Microscopy for 'High Tech' Forensic Document Examination," Association of Forensic Document Examiners Continuing Education Symposium 2006, Westmont, Illinois, October 2006.

W.D. Niemeyer, "Introducing Scanning Electron Microscopy (SEM)," Associated Colleges of the Chicago Area (ACCA) Spring 2008 Seminar Series on Chemical and Biological Microscopy, Westmont, Illinois, April 2008.

W.D. Niemeyer, "From Pits to Craters," Institute of Packaging Professionals – Chicago Chapter, Westmont, Illinois, September 2009.

W.D. Niemeyer, "Advanced Microanalysis Methods Solve Automotive Paint Adhesion Failures," Advanced Materials & Processes, Vol. 170, Issue 2, February 2012 (ASM International), pp. 20-23.

W.D. Niemeyer, "Scanning Electron Spectroscopy in Forensic Document Examination," Association of Forensic Document Examiners Continuing Education Symposium 2013, Lombard, Illinois, October 2013.

PROFESSIONAL PRESENTATIONS AND PUBLICATIONS – continued

S.J. Toal, W.D. Niemeyer, S. Conte, D.D. Montgomery, G.S. Erikson, "Confirmatory Analysis of Field-Presumptive GSR Test Sample Using SEM/EDS," *Proc. SPIE* 9236, Scanning Microscopies 2014, 92361C (September 16, 2014); doi: 10.1117/12.2074212.

W.D. Niemeyer, "SEM/EDS analysis for problem solving in the food industry," *Proc. SPIE* 9636, Scanning Microscopies 2015, 96360G (October 21, 2015); doi:10.1117/12.2196962

W.D. Niemeyer, "Prevent Contamination from Defects in Metal Can Food Packaging," Food Safety Tech., December 14, 2015

W.D. Niemeyer, "Using Analytical Lab Instruments to Find Defects in Cans," Food Safety Tech., December 14, 2015

WEBINAR PRESENTATIONS

W.D. Niemeyer, "Defects in Food Packaging", The McCrone Group, April 21, 2016

W.D. Niemeyer, "The "Where's Waldo" Dilemma in Microscopy, The McCrone Group, November 10, 2016

PATENT

"Method of Forming Seamless Drawn and Ironed Containers of Aluminum Stock," Patent 4,506,533, March 26, 1985.

PROFESSIONAL AFFILIATIONS

ASM International
Midwest Microscopy and Microanalysis Society

APPENDIX C

Curriculum VitaeTrial and Deposition Testimony
Wayne D. Niemeyer

Ref: MA61581
(2 pages)

Wayne D. Niemeyer
Curriculum Vitae
Supplement

TRIAL AND DEPOSITION TESTIMONY
2013-2016

1. **State of New York vs. Patrick Murray**, Case No. 3317/12, County of Bronx, Bronx New York. **(Defense) MA55429**
   a. Trial testimony on 12 August 2013

2. **State of Indiana vs. David R. Camm** (Retrial), Cause No. 74C01-1210-MR-000184, County of Boone, Lebanon, Indiana. **(Prosecution) MA36551**
   a. Trial testimony on 12 September 2013

3. **State of Florida vs. Brandon B. Wilson**, Case No. 02-11-021979, County of Alachua, Gainesville, Florida **(Prosecution) MA55476**
   a. Trial testimony on 26 September 2013

4. **State of New York vs. Patrick Murray**, Case No. 3317/12, County of Bronx, Bronx New York. **(Defense) (MA55429)**
   a. Trial testimony (retrial) on 19 May 2014

5. **State of Florida vs. Jalil Allen**, Case No. 14000194CF 10A, County of Broward, Fort Lauderdale, Florida, **(Prosecution) MA56483**
   a. Trial testimony on 24 August 2015

6. **State of New York vs. Jordan Agosto,** Indictment # 1973-2012, County of Bronx, Bronx, New York **(Defense) MA58511.B**
   a. Trial testimony on 19 February 2016

7. **State of Minnesota vs. Jamaine Jamie Williams,** Court File No. 62-CR-15-9669 County of Ramsey, St. Paul, Minnesota **(Prosecution) MA59645.A**
   a. Trial testimony on 10 August 2016

8. **State of Minnesota vs. Dametrius Ratheal Adrian Moore,**
   Court File No. 62-CR-15-8313
   County of Ramsey, St. Paul, Minnesota **(Prosecution) MA59019.A**
   a. Trial testimony on 14 September 2016

9. **State of Minnesota vs. Dearies Calvin Collins,**
   Court File No. 62-CR-15-8367, County of Ramsey, St. Paul, Minnesota **(Prosecution) MA59019.B**
   a. Trial testimony on 20 October 2016

Wayne D. Niemeyer
Curriculum Vitae
Supplement

TRIAL AND DEPOSITION TESTIMONY
2013-2016

10. Re: American Medical Systems, Inc., Pelvic Repair System ProductsLiability Litigation, MDL No. 2325, relating to Lisa Fontes, et al. v. AmericanMedical Systems, Inc., 2:12-cv-02472; Joann Serrano v. American MedicalSystems, Inc., 2:12-cv-03719; Debbie K. Jilovec v. American Medical Systems,
Inc., 2:12-cv-05561; Mary Weiler, et al. v. American Medical Systems, Inc., 2:12-cv-05836. **(Defense) MA55168**

a. Deposition on 1 November 2013

11. Powell and Powell v. American Medical Systems, Inc. et al., Case No.CV-2011-1451-VI, County of Sebastian, Arkansas, Civil Division VI. **(Defense) MA55730**

a. Deposition on 19 March 2014